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Fisheries Resource Development in Newfoundland





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Fisheries Resource Development in Newfoundland



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FISH — A LIVING RESOURCE

Unlike metals or oils, fish are a renewable resource.

Their continuance, however, depends on how man uses them.

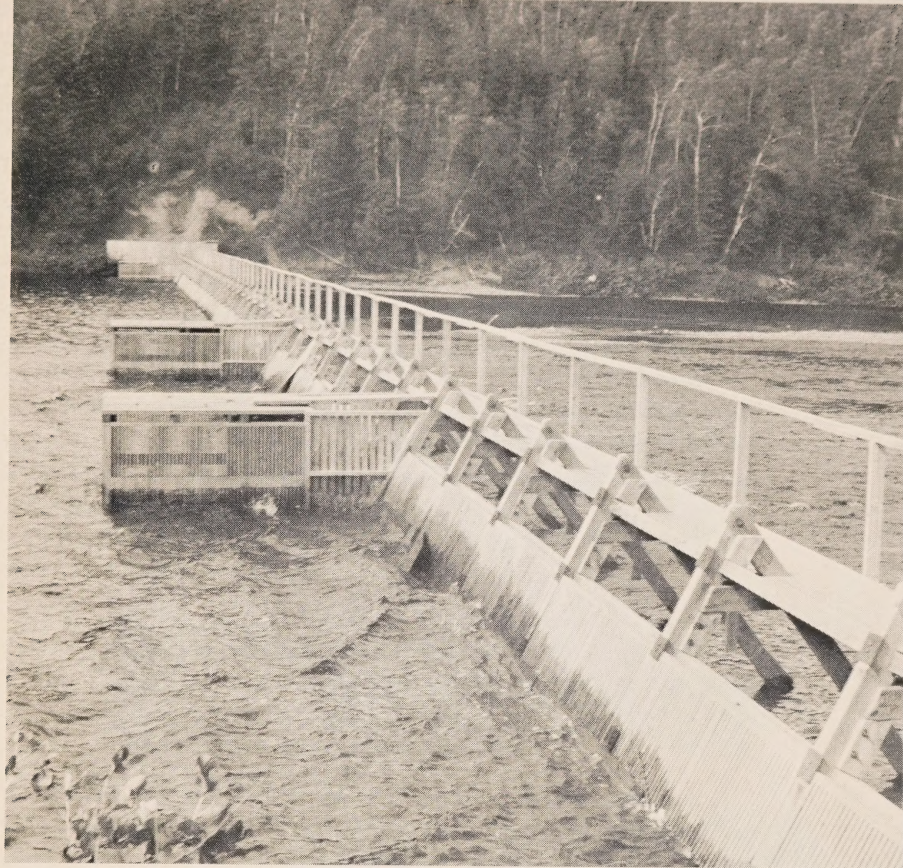
Reckless exploitation or destruction of environment can lead to almost complete depletion.

Proper management techniques — as advocated by the Department of Fisheries of Canada and its agencies — ensure that fish stocks will survive.

Some of the projects undertaken or proposed by the Department's Resource Development Service and the Fisheries Research Board of Canada in Newfoundland to ensure that fish will survive as a source of food, livelihood and recreational pleasure for future generations of Canadians, are outlined in this booklet.



Salmon grilse from spawning channel checked for size.



Salmon counting fence on Indian River

Fisheries Management

Management of Newfoundland's freshwater fisheries is the responsibility of engineers, biologists and technicians of the Department of Fisheries of Canada's Resource Development Service.

With programs ranging from pollution control to construction of salmon spawning channels and other engineering projects, the Department seeks to maintain existing salmon and trout stocks, and where possible, increase the resource.

Management policy, of course, without regulation would be fruitless. That is where the Conservation and Protection Service of the Department enters the picture. Officers of this service enforce the Fisheries Act under which regulations are embodied.

Projects

Exploits River
Little Rattling Brook
Indian River Spawning
Channel
Greenland Salmon
Studies
Pollution Investigations

Problems

Greater Fishing
Pressure
Pollution
Lumbering Operations
Hydro-Electric Dams
Industrial Expansion

Arch Enemy of Fish

Electric power generated by water has always been an arch enemy of salmon and other migratory fish species, as a result of the necessity for high dams to hold back and divert water into the turbines.

The Bay D'Espoir hydro electric development uses the watersheds of four rivers – Salmon, Grey, White Bear and the headwaters of the Exploits. The Department of Fisheries completed arrangements with power authorities to provide adequate water to the Grey River, the only major salmon river involved.

Work has begun on the gigantic Churchill Falls hydro development in Labrador, with the target date for "on power" set for 1971 or 1972. Several rivers will be affected by headwater diversions to the Churchill system, and discussions have been held with Churchill Power Corporation Ltd. concerning the Department's requirements for fish protection facilities.

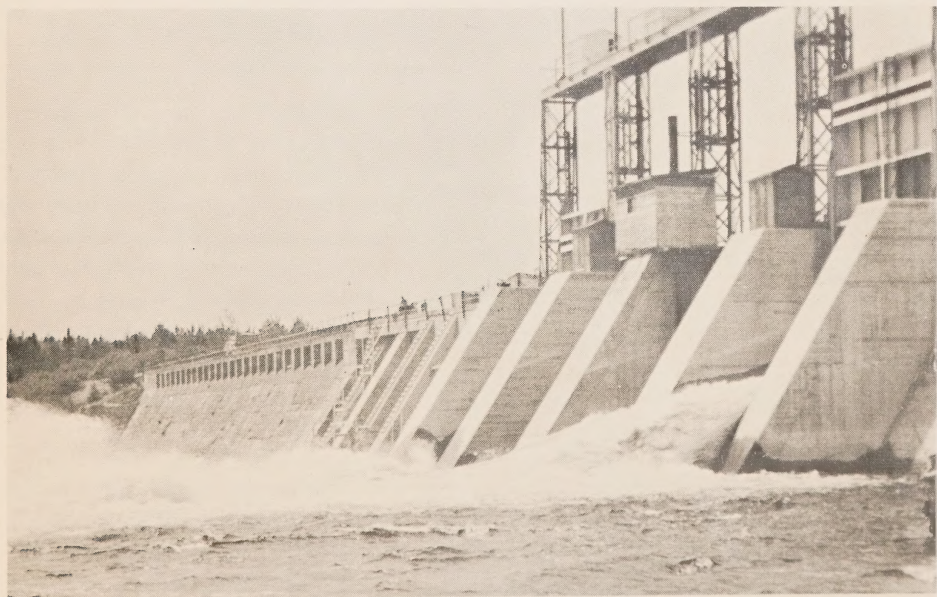
Proposed industrial developments in the Come-by-Chance and Stephenville areas have necessitated extensive bio-engineering studies to determine possible effects on existing salmon and trout populations.

New Fishery for Newfoundland?

British Columbia pink salmon appear to be adapting to Newfoundland fresh water streams and coastal conditions. Three years ago 3.3 million eggs were planted in North Harbour River, and last fall more than 8,000 adult pink salmon returned to spawn.

In 1966 nearly six million eggs were planted and the adult returns in 1968 will be watched with keen interest by fisheries biologists and, of course, by fishermen. Signs for a good '68 run are encouraging since large numbers of young pinks were seen by fishermen in St. Mary's Bay last year. That is considered indicative of a good survival to that stage.

More than five thousand pinks escaped the commercial fishery and returned to North Harbour River. Whether or not that number is sufficient to produce a continuing run is one of the imponderables but the numbers of adults returning to this river in 1969 may provide the answer. The salmon project was conducted by the Fisheries Research Board of Canada.



Hydro-electric power dam on the Exploits River

Salmon on the Move

A development program on the Exploits River is aimed at establishing Atlantic salmon in the 1,400 square miles between Grand Falls and the Red Indian Lake dam. Two streams are being used for experimental fish introductions, adult salmon having been transferred to these tributaries from other watersheds.

In one stream, fish will spawn in a controlled flow spawning channel; in the second, spawning will take place in a natural stream.

A hydro-electric development, which began on Rattling Brook in 1958, made it economically impossible to maintain to the existing Atlantic salmon run in that stream. As a conservation measure, the Department of Fisheries of Canada undertook to relocate the run to Great Rattling Brook. A transfer of adult fish commenced in 1958 and continued until 1965, during which time approximately 3,000 salmon were transferred. This has proven to be the nucleus of a good run of salmon to Great Rattling Brook.

Indian River Spawning Channel



Experimental spawning channel

Indian River spawning channel, first to be constructed anywhere for Atlantic salmon, is designed as a pilot project for testing salmon management techniques on the Atlantic coast. Completed in 1963, the channel has already achieved moderate success but, more important, it holds promise for future success and adaptation to other Atlantic salmon waterways.

The channel was built to replace several miles of natural spawning grounds lost when the river's headwaters were diverted to the Birchy Lake-Grand Lake system for electric power purposes.

Pollution

Investigations

Mining and pulp mill operations are the main contributors to the pollution problems in Newfoundland's inland fishing waters. Typical of such operations are those on the Exploits River and Red Indian Lake where the Department of Fisheries of Canada pollution teams have made, and are continuing extensive investigations.

In addition, pollution studies were conducted at Wabush Lake iron ore operations in Labrador, and Rambler Brook mine in Newfoundland. Investigation at Wabush Lake is a joint effort by the Fisheries Research Board of Canada's biological station at St. Andrews, N.B., and the federal Department of Fisheries.



Testing for water pollution.

Greenland Salmon Studies

The exact destination of juvenile (smolt) Atlantic salmon after they leave their fresh water nursery has always been a mystery to biologists. However, the puzzle is beginning to unravel.

A few years ago when Greenland fishermen began catching salmon in sizeable quantities, scientists of the Fisheries Research Board of Canada became interested in the origin of these salmon. A survey disclosed that some of these salmon

came from rivers in the Atlantic provinces. They were identified by tags affixed to them during their juvenile days in Canadian streams.

The Greenland fishery created concern in Canada because of its possible effect on the Atlantic salmon population in eastern rivers. Canada raised the salmon question at a meeting of the International Commission for the Northwest Atlantic Fisheries, and a study of the fishery is now underway.

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